



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

5e

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 09/883,113 | 06/15/2001 | Klaus Schroiff | DE9200000061US1 | 7971 |
| 29683 | 7590 | 04/21/2005 | EXAMINER | |
| HARRINGTON & SMITH, LLP 4 RESEARCH DRIVE SHELTON, CT 06484-6212 | | | LOHN, JOSHUA A | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2114 | |

DATE MAILED: 04/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/883,113

Applicant(s)

SCHROIFF ET AL.

Examiner

Joshua A. Lohn

Art Unit

2114

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 February 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-9,11 and 12 is/are rejected.
- 7) ☒ Claim(s) 2 and 10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

4

FINAL REJECTION

Response to Arguments

Applicant's arguments filed 2/22/05, with respect to independent claims 1, 8, and 9 and dependent claims 5 and 6 have been fully considered but they are not persuasive.

Applicant's arguments, see pages 10-11, filed 2/22/05, with respect to claims 2 and 10 have been fully considered and are persuasive. The 102(b) rejection of claims 2 and 10 has been withdrawn, however these claims are still objected to due to the dependence upon rejected claims.

With respect to applicant's argument that, with respect to independent claims 1, 8, and 9, Badovinatx fails to disclose storing configuration information for all the failover candidate nodes, the examiner respectfully disagrees. Badovinatx discloses the membership list, which inherently would include the storing of the information within it, and which is used to define failover candidates (Badovinatx, col. 6, lines 32-36).

With respect to applicant's argument that, with respect to independent claims 1, 8, and 9, Badovinatx fails to disclose analyzing... the stored configuration information in order to determine whether to take over the service of a failure node by a failure candidate node or not, the examiner respectfully disagrees. It is shown in Badovinatx that an ascending node, which is taking over after failure, must consult the stored configuration information by sending a heartbeat to detect if the node really should proceed with the full takeover or end by aborting the fail over operation (Badovinatx, col. 6, lines 44-52).

With respect to applicant's argument that, with respect to dependent claims 5 and 6, Vert fails to disclose the failing over of a service and the failing over of a group is not compatible, the

Art Unit: 2114

examiner respectfully disagrees. Vert discloses a group that is responsible for running applications that, in turn, supply the service to the user. In the failing over of a group, as described by Vert, the failing over of all applications and services of the group would be inherently included (Vert, col. 6, lines 19-24).

In view of the above response, the 102(b) rejection of claims 1, 3, 4, 7-9, 11, and 12 and the 103(a) rejection of claims 5 and 6 is upheld and reiterated below. The rejection of claims 2 and 10 is withdrawn and an objection is raised in its place.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims ³1, ⁴4 and ⁷7-¹²12 rejected under 35 U.S.C. 102(b) as being anticipated by Badovinat¹z et al., United States Patent number, 5,926,619, published July 20, 1999.

As per claim¹ Badovinat¹z discloses a method for handling failover of a data management application for a shared disk file system in a distributed computing environment having a cluster of loosely coupled nodes which provide services, comprising the steps of: defining certain nodes of the cluster as failover candidate nodes; storing configuration information for all the failover candidate nodes (Badovinat¹z, col. 6, lines 32-36, where the membership list defines failover candidates as well as storing configuration information relating to those nodes); distributing message information including but not limited to failure information of at least one failover

Art Unit: 2114

candidate node amongst the failover candidate nodes (Badovinat, col. 6, lines 22-24); analyzing the distributed message information and the stored configuration information in order to determine whether to take over the service of a failure node by a failover candidate node or not (Badovinat, col. 6, lines 31-37); updating the configuration information in case of at least one failover candidate node taking over the service of a failure node (Badovinat, col. 6, lines 60-67).

As per claim 3, Badovinat further discloses that the configuration information is stored in a central data storage arranged within the cluster (Badovinat, col. 2, lines 50-60, where the control workstation acts as a central storage).

As per claim 4, Badovinat further discloses that the distributed message information includes a failure report of at least one node (Badovinat, col. 6, lines 16-24).

As per claim 7, Badovinat further discloses that the updating of the configuration information is handled by means of a locking mechanism (Badovinat, col. 7, lines 46-57, where the system is locked during recovery, where all updates to the configuration occur).

As per claim 8, this is merely a software implementation of the methods described in claim 1 above. Badovinat discloses, in column 3, lines 9-15, that software is capable of executing the defining, storing, distributing, analyzing and updating steps of claim 8, as described above in the rejection of claim 1, and which utilize messages developed and executed in software. Therefor in view of the teachings of column 3, lines 9-15, and those provided in the rejection of claim 1 above, claim 8 is fully disclosed by Badovinat.

As per claim 9, Badovinatx discloses a system for handling failover of a data management application for a shared disk file system in a distributed computing environment having a cluster of loosely coupled nodes which provide services, comprising data storage means for storing configuration information for failover candidate nodes (Badovinatx, col. 2, lines 50-60); communication interface means for distributing message information between the failover candidate nodes (Badovinatx, col. 2, lines 50-60); means for analyzing the message information and the configuration information in order to determine whether to take over the service of a failure node by a failover candidate node or not (Badovinatx, col. 6, lines 16-67); means for updating the configuration information in case of at least one failover candidate node taking over the service of a failure node (Badovinatx, col. 6, lines 60-67).

As per claim 11, Badovinatx further discloses that the data storage means is a central data storage arranged within the cluster (Badovinatx, col. 2, lines 50-60, where the control workstation is the central storage).

As per claim 12, Badovinatx further discloses that the means for updating the configuration information are located at the failover candidate node taking over a service of a failure node (Badovinatx, col. 6, lines 16-67, where the CP node has the means to update the configuration info).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Badovinatz et al., in further view of Vert et al., United States Patent number, 6,360,331, filed April 17, 1998.

As per claim 5, Badovinatz further discloses that the failover candidate nodes calculate a priority key, which is distributed as part of the distributed message information (Badovinatz, col. 4, lines 1-10, where the node number, indicated in the heartbeat, provides a priority key). Badovinatz fails to relate the key to the workload of the candidate.

Vert discloses using the workload as a priority aspect in failover candidate nodes (Vert, col. 9, lines 16-29).

It would have been obvious to one skilled in the art at the time of the invention to include a workload aspect in the priority key of Badovinatz.

This would have been obvious because Badovinatz only describes a very basic system for indicating a failover priority. Vert discloses that including information relating to the load on a system can help improve the priority rankings for failover candidates. It would have been obvious to include this load information in the priority key of Badovinatz to provide the added benefit of avoiding overloading of nodes by giving priority ranking only to the nodes that are most capable of handling the failover workload (Vert, col. 9, lines 22-26).

As per claim 6, Badovinatz and Vert disclose that the failover candidate nodes receiving the priority key compare the received priority key with their own priority key whereby the best priority key wins the right to take over the service (Badovinatz, col. 4, lines 1-28, and Vert, col. 9, lines 16-37).

Allowable Subject Matter

Claims 2 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua A. Lohn whose telephone number is (571) 272-3661. The examiner can normally be reached on M-F 8-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Beausoliel can be reached on (571) 272-3645. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2114

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JAL



SCOTT BADERMAN
PRIMARY EXAMINER